

Textbook Alignment to the Utah Core – Science - Biology

This alignment has been completed using an “Independent Alignment Vendor” from the USOE approved list (www.schools.utah.gov/curr/imc/indvendor.html.) Yes X No _____

Name of Company and Individual Conducting Alignment: Inside Edge Publishing

A “Credential Sheet” has been completed on the above company/evaluator and is (Please check one of the following):

X On record with the USOE.

The “Credential Sheet” is attached to this alignment.

Instructional Materials Evaluation Criteria (name and grade of the core document used to align): Science - Biology

Title: Prentice Hall Biology (Miller/Levine) © 2008

ISBN#: 0-13-201349-5 (SE), 0-13-201351-7 (TE)

Publisher: Pearson Prentice Hall

SE = Student Edition - TE = Teacher Edition - TR = Teaching Resources - TECH = Technology - LW=Lab Manual Worksheet

BD = Biodetective Video - WS=Teaching Resources Worksheets – RSW = Reading & Study Workbook – ARSW = Adapted Reading & Study Workbook

ABC = DVD Library - VL=Virtual Lab - iText = Interactive Textbook - T = Transparency - PE = Presentation Express - LS = Lab Simulation

Overall percentage of coverage in the *Student Edition (SE) and Teacher Edition (TE)* of the Utah State Core Curriculum:
100%

Overall percentage of coverage in *ancillary materials* of the Utah Core Curriculum: _____ %

STANDARD I: Students will understand that living organisms interact with one another and their environment.

Percentage of coverage in the <i>student and teacher edition</i> for Standard I: <u>100 %</u>	Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard I: _____ %		
OBJECTIVES & INDICATORS	Coverage in <i>Student Edition(SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	Not covered in TE, SE or ancillaries ✓
Objective 1.1: Summarize how energy flows through an ecosystem.			
a. Arrange components of a food chain according to energy flow.	SE/TE: 67-73	TR: RSW: 3-2; ARSW 3-2; WS 8-10 & 19-21 TECH: iText: 3-2; PE: 3-2; T: 3-2	
b. Compare the quantity of energy in the steps of an energy pyramid.	SE/TE: 67-73	TR: RSW: 3-2; ARSW 3-2; WS 8-10 & 19-21 TECH: iText: 3-2; PE: 3-2; T: 3-2	
c. Describe strategies used by organisms to balance the energy expended to obtain food to the energy gained from the food (e.g., migration to areas of seasonal abundance, switching types of prey based upon availability, hibernation or dormancy).	SE/TE: 67-73	TR: RSW: 3-2; ARSW 3-2; WS 8-10 & 19-21 TECH: iText: 3-2; PE: 3-2; T: 3-2	
d. Compare the relative energy output expended by an organism in obtaining food to the energy gained from the food (e.g., hummingbird - energy expended hovering at a flower compare the amount of energy gained from the nectar, coyote - chasing mice to the energy gained from catching one, energy expended in migration of birds to a location with seasonal abundance compared to energy gained by staying in a cold climate with limited food).	SE/TE: 67-73	TR: RSW: 3-2; ARSW 3-2; WS 8-10 & 19-21 TECH: iText: 3-2; PE: 3-2; T: 3-2	

	e. Research food production in various parts of the world (e.g., industrialized societies' great use of fossil fuel in food production, human health related to food product).	SE/TE: 139-143, 144-149, 150-156, 157-160	TR: GRSW: 6-1, 6-2, 6-3, 6-4; ARSW: 6-1, 6-2, 6-3, 6-4; WS: 144-153 TECH: iText: 6-1, 6-2, 6-3, 6-4; PE: 6-1, 6-2, 6-3, 6-4; T: 6-1, 6-2, 6-3, 6-4	
	Objective 1.2: Explain relationships between matter cycles and organisms.			
a.	Use diagrams to trace the movement of matter through a cycle (i.e., carbon, oxygen, nitrogen, water) in a variety of biological communities and ecosystems.	SE/TE: 74-80, 201-203, 204-207, 208-214, 221-225, 226-232	TR: RSW: 8-3, 8-1, 8-2, 8-3, 9-1, 9-2; ARSW: 8-3, 8-1, 8-2, 8-3, 9-1, 9-2; WS: 11-13, 22-23, 54, 55-59, 65-66, 92-97; LW: Ch. 3 Exploration, Ch. 8 Design an Experiment, Ch. 9 Real-World Lab TECH: iText: 8-3, 8-1, 8-2, 8-3, 9-1, 9-2; PE: 8-3, 8-1, 8-2, 8-3, 9-1, 9-2; LS: Photosynthesis, Cell Respiration; VL: Lab 6, 7, and 8; ABC: 8, 9, &12-15; T:	

			3-3	
b.	Explain how water is a limiting factor in various ecosystems.	SE/TE: 106-112, 124-132	TR: GRSW: 4-4, 5-2; ARSW: 4-4, 5-2; WS: 68-70, 98-99 TECH: iText: 4-4, 5-2; PE: 4-4, 5-2; T: 4-4, 5-2	
c.	Distinguish between inference and evidence in a newspaper, magazine, journal, or Internet article that addresses an issue related to human impact on cycles of matter in an ecosystem determine the bias in the article.	SE/TE: 139-143, 144-149, 150-156, 157-160	TR: GRSW: 6-1, 6-2, 6-3, 6-4; ARSW: 6-1, 6-2, 6-3, 6-4; WS: 144-153 TECH: iText: 6-1, 6-2, 6-3, 6-4; PE: 6-1, 6-2, 6-3, 6-4; T: 6-1, 6-2, 6-3, 6-4	
d.	Evaluate the impact of personal choices in relation to the cycling of matter within an ecosystem (e.g., impact of automobiles on the carbon cycle, impact on landfills of processed and packaged foods).	SE/TE: 74-80, 201-203, 204-207, 208-214, 221-225, 226-232	TR: RSW: 3-3, 8-1, 8-2, 8-3, 9-1, 9-2; ARSW: 3-3, 8-1, 8-2, 8-3, 9-1, 9-2; WS: 11-13, 22-23, 54, 55-59, 65-66, 92-97; LW: Ch. 3 Exploration, Ch. 8 Design an Experiment, Ch. 9 Real-World Lab TECH: iText: 8-3, 8-1, 8-2, 8-3, 9-1, 9-2; PE: 3-3, 8-1, 8-2, 8-3, 9-1, 9-2; LS:	

			Photosynthesis, Cell Respiration; VL: Lab 6, 7, and 8; ABC: 8, 9, &12-15; T: 3-3	
	Objective 1.3: Describe how interactions among organisms and their environment help shape ecosystems.			
a.	Categorize relationships among living things according to predator-prey, competition, and symbiosis.	SE/TE: 90-97	TR: GRSW: 4-2; ARSW: 4-2; WS: 62-63; LW: Ch. 4 Exploration TECH: iText: 4-2; PE: 4-2; T: 4-2	
b.	Formulate and test a hypothesis specific to the effect of changing one variable upon another in a small ecosystem.	SE/TE: 87-89, 90-97, 98-105, 106-112	TR: GRSW: 4-1, 4-2, 4-3, 4-4; ARSW: 4-1, 4-2, 4-3, 4-4; WS: 60-70; LW: Ch. 4 Exploration TECH: iText: 4-1, 4-2, 4-3, 4-4; PE: 4-1, 4-2, 4-3, 4-4; T: 4-1, 4-2, 4-3, 4-4; VL: The Effect of Temperature on Dissolved Oxygen	
c.	Use data to interpret interactions among biotic and abiotic factors (e.g., pH, temperature, precipitation, populations, diversity) within an ecosystem.	SE/TE: 90-97	TR: GRSW: 4-2; ARSW: 4-2; WS: 62-63; LW: Ch. 4 Exploration	

			TECH: iText: 4-2; PE: 4-2; T: 4-2
d.	Investigate an ecosystem using methods of science to gather quantitative and qualitative data that describe the ecosystem in detail.	SE/TE: 87-89, 90-97, 98-105, 106-112	TR: GRSW: 4-1, 4-2, 4-3, 4-4; ARSW: 4-1, 4-2, 4-3, 4-4; WS: 60-70; LW: Ch. 4 Exploration TECH: iText: 4-1, 4-2, 4-3, 4-4; PE: 4-1, 4-2, 4-3, 4-4; T: 4-1, 4-2, 4-3, 4-4; VL: The Effect of Temperature on Dissolved Oxygen
e.	Research and evaluate local and global practices that affect ecosystems.	SE/TE: 139-143, 144-149, 150-156, 157-160	TR: GRSW: 6-1, 6-2, 6-3, 6-4; ARSW: 6-1, 6-2, 6-3, 6-4; WS: 144-153 TECH: iText: 6-1, 6-2, 6-3, 6-4; PE: 6-1, 6-2, 6-3, 6-4; T: 6-1, 6-2, 6-3, 6-4

STANDARD II: Students will understand that all organisms are composed of one or more cells that are made of molecules, come from preexisting cells, and perform life functions.

Percentage of coverage in the <i>student and teacher edition</i> for Standard II: <u>100 %</u>	Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard II: _____ %		
OBJECTIVES & INDICATORS	Coverage in <i>Student Edition(SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	<i>Not covered in TE, SE or ancillaries</i> ✓
Objective 2.1: Describe the fundamental chemistry of living cells.			
a. List the major chemical elements in cells (i.e., carbon, hydrogen, nitrogen, oxygen phosphorous, sulfur, trace elements).	SE/TE: 44-48	TR: RSW 2-3; ARSW: 2-3; WS: 54, 65-67 TECH: iText: 2-3; PE 2-3; LS: Properties of Biomolecules	
b. Identify the function of the four major macromolecules (i.e., carbohydrates, protein lipids, nucleic acids).	SE/TE: 44-48	TR: RSW 2-3; ARSW: 2-3; WS: 54, 65-67 TECH: iText: 2-3; PE 2-3; LS: Properties of Biomolecules	
c. Explain how the properties of water (e.g., cohesion, adhesion, heat capacity, solv properties) contribute to maintenance of cells and living organisms.	SE/TE: 40-43	TR: GRSW: 2-2; ARSW: 2-2; WS: 63-64 TECH: iText: 2-2; PE: 2-2; T: 2-2	
d. Explain the role of enzymes in cell chemistry.	SE/TE: 49-53	TR: RSW 2-4; ARSW 2-4; LW	

			Ch. 2 Design an Experiment; WS 55-56, 68-69 TECH: iText: 2-4; PE 2-4; ABC 4 Enzymatic Reactions; VL: Lab 1
	Objective 2.2: Describe the flow of energy and matter in cellular function.		
a.	Distinguish between autotrophic and heterotrophic cells.	SE/TE: 169-173, 174-181, 182-189, 190-198	TR: GRSW: 7-1, 7-2, 7-3; ARSW: 7-1, 7-2, 7-3; WS: 8-11, 19-25; LW: Ch. 7 Real World Lab TECH: iText: 7-1, 7-2, 7-3; PE: 7-1, 7-2, 7-3; T: 7-1, 7-2, 7-3; LS: Biomembranes; VL: Lab 3, 4 & 5
b.	Illustrate the cycling of matter and the flow of energy through photosynthesis (e.g., by using light energy to combine CO ₂ and H ₂ O to produce oxygen and sugars) and respiration (e.g., by releasing energy from sugar and O ₂ to produce CO ₂ and H ₂ O).	SE/TE: 201-203, 204-207, 208-218, 221-225, 226-232, 233-238	TR: GRSW: 8-1, 8-2, 8-3, 9-1, 9-2; ARSW: 8-1, 8-2, 8-3, 9-1, 9-2; WS: 54-59, 63-69, 92-97 TECH: iText: 8-1, 8-2, 8-3, 9-1, 9-2; PE: 8-1, 8-2, 8-3, 9-1, 9-2; T: 8-1, 8-2, 8-3, 9-1, 9-2; ABC: 8 & 9, 12, 13, 14, 15; VL: 6 & 7; LS: Cell Respiration

	c. Measure the production of one or more of the products of either photosynthesis or respiration	SE/TE: 201-203, 204-207, 208-218, 221-225, 226-232, 233-238	TR: GRSW: 8-1, 8-2, 8-3, 9-1, 9-2; ARSW: 8-1, 8-2, 8-3, 9-1, 9-2; WS: 54-59, 63-69, 92-97 TECH: iText: 8-1, 8-2, 8-3, 9-1, 9-2; PE: 8-1, 8-2, 8-3, 9-1, 9-2; T: 8-1, 8-2, 8-3, 9-1, 9-2; ABC: 8 & 9, 12, 13, 14, 15; VL: 6 & 7; LS: Cell Respiration	
	Objective 2.3: Investigate the structure and function of cells and cell parts.			
a.	Explain how cells divide from existing cells.	SE/TE: 241-243, 244-249, 250-258	TR: GRSW: 10-1, 10-2, 10-3; ARSW: 10-1, 10-2, 10-3; WS: 130-134, 138-142; LW: Ch. 10 Exploration TECH: iText: 10-1, 10-2, 10-3; PE: 10-1, 10-2, 10-3; T: 10-1, 10-2, 10-3; LS: Mitosis; BD: Skin Cancer; ABC: 16	
b.	Describe cell theory and relate the nature of science to the development of cell theory (e.g., built upon previous knowledge, use of increasingly more sophisticated technology).	SE/TE: 169-173, 174-181, 182-189, 190-198	TR: GRSW: 7-1, 7-2, 7-3; ARSW: 7-1, 7-2, 7-3; WS: 8-11, 19-25; LW: Ch. 7 Real World Lab TECH: iText: 7-	

			1, 7-2, 7-3; PE: 7-1, 7-2, 7-3; T: 7-1, 7-2, 7-3; LS: Biomembranes; VL: Lab 3, 4 & 5	
c.	Describe how the transport of materials in and out of cells enables cells to maintain homeostasis (i.e., osmosis, diffusion, active transport).	SE/TE: 182-189	TR: GRSW: 7-3; ARSW: 7-3; WS: 12-14, 26-28; LW: Ch. 7 Real World Lab TECH: iText: 7-3; PE: 7-3; ABC: 5, 6, & 7; VL: 3, 4, & 5	
d.	Describe the relationship between the organelles in a cell and the functions of that	SE/TE: 169-173, 174-181, 182-189, 190-198	TR: GRSW: 7-1, 7-2, 7-3; ARSW: 7-1, 7-2, 7-3; WS: 8-11, 19-25; LW: Ch. 7 Real World Lab TECH: iText: 7-1, 7-2, 7-3; PE: 7-1, 7-2, 7-3; T: 7-1, 7-2, 7-3; LS: Biomembranes; VL: Lab 3, 4 & 5	
e.	Experiment with microorganisms and/or plants to investigate growth and reproduction.	SE/TE: 241-243, 244-249, 250-258	TR: GRSW: 10-1, 10-2, 10-3; ARSW: 10-1, 10-2, 10-3; WS: 130-134, 138-142; LW: Ch. 10 Exploration TECH: iText: 10-1, 10-2, 10-3; PE: 10-1, 10-2, 10-3; T: 10-1, 10-2, 10-3; LS:	

STANDARD III: Students will understand the relationship between structure and function of organs and organ systems.			
Percentage of coverage in the <i>student and teacher edition</i> for Standard III: <u>100 %</u>		Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard III: _____ %	
OBJECTIVES & INDICATORS		Coverage in <i>Student Edition(SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)
Objective 3.1: Describe the structure and function of organs.			
a. Diagram and label the structure of the primary components of representative org in plants and animals (e.g., heart - muscle tissue, valves and chambers; lung - trachea, bronchial, alveoli; leaf - veins, stomata; stem - xylem, phloem, cambium; root - tip, elongation, hairs; skin - layers, sweat glands, oil glands, hair follicles; ovaries - ova, follicles, corpus luteum).	SE/TE: Representative pages: 921-925, 926-932, 1031-1035, 1036-1042, 1043-1047, 1048, 1049-1058	TR: GRSW: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; ARSW: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; TECH: iText: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; PE: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; T: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; ABC: 39	
b. Describe the function of various organs (e.g. heart, lungs, skin, leaf, stem, root, ovary).	SE/TE: Representative pages: 891-896, 897-900, 901-905, 906-909, 910-918, 943-950, 951-955, 956-968	TR: GRSW: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3; ARSW: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-	

			2, 37-3 TECH: iText: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3; PE: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3; T: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3	
c.	Relate the structure of organs to the function of organs.	SE/TE: Representative pages: 971-977, 978-984, 985-994, 1031-1035, 1036-1042, 1043-1047, 1048, 1049-1058	TR: GRSW: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; ARSW: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; WS: 149-157, 237-245; LW: Ch. 10 Real World Lab TECH: iText: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; PE: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; T: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; BD: Influenza, Hantavirus; ABC: 44, 46	
d.	Compare the structure and function of organs in one organism to the structure and function of organs in another organism.	SE/TE: Representative pages: 943-950, 951-955, 956-963, 971-977, 978-984, 985-994	TR: GRSW: 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; ARSW: 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; WS: 109-117, 149-157 TECH: iText: 37-1, 37-2, 37-3, 38-1,	

			38-2, 38-3; PE: 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; T 37-1, 37-2, 37- 3, 38-1, 38-2, 38- 3; LS: Cardiovascular 1; VL: Lab 20	
e.	Research and report on technological developments related to organs.	SE/TE: Representative pages: 943-950, 951-955, 956-963, 1031-1035, 1036-1042, 1043-1047, 1049-1054	TR: GRSW: 37-1, 37-2, 37-3, 40-1, 40-2, 40-3, 40-4; ARSW: 37-1, 37-2, 37-3, 40-1, 40-2, 40-3, 40-4; WS: 109-117, 237-245 TECH: iText: 37-1, 37-2, 37-3, 40-1, 40-2, 40-3, 40-4; PE: 37-1, 37-2, 37-3, 40-1, 40-2, 40-3, 40-4; T: 37-1, 37-2, 37-3, 40-1, 40-2, 40-3, 40-4; ABC: 44, 46; BD: Influenza, Hantavirus	
Objective 3.2: Describe the relationship between structure and function of organ systems in plants and animals.				
a.	Relate the function of an organ to the function of an organ system.	SE/TE: Representative pages: 971-977, 978-984, 985-994, 1031-1035, 1036-1042, 1043-1047, 1048, 1049-1058	TR: GRSW: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; ARSW: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; WS: 149-157, 237-245; LW: Ch. 10 Real World Lab TECH: iText: 38-1,	

			38-2, 38-3, 40-1, 40-2, 40-3, 40-4; PE: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; T: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; BD: Influenza, Hantavirus; ABC: 44, 46	
b.	Describe the structure and function of various organ systems (i.e., digestion, respiration, circulation, protection and support, nervous) and how these systems contribute to homeostasis of the organism.	SE/TE: Representative pages: 943-950, 951-955, 956-963, 971-977, 978-984, 985-994	TR: GRSW: 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; ARSW: 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; WS: 109-117, 149-157 TECH: iText: 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; PE: 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; T 37-1, 37-2, 37-3, 38-1, 38-2, 38-3; LS: Cardiovascular 1; VL: Lab 20	
c.	Examine the relationships of organ systems within an organism (e.g., respiration, circulation, leaves to roots) and describe the relationship of structure to function the relationship.	SE/TE: Representative pages: 921-925, 926-932, 1031-1035, 1036-1042, 1043-1047, 1048, 1049-1058	TR: GRSW: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; ARSW: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4 TECH: iText: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; PE: 36-1, 36-2, 40-1, 40-2, 40-3, 40-4; T: 36-1, 36-2, 40-1, 40-2, 40-3, 40-	

			4; ABC: 39	
d.	Relate the tissues that make up organs to the structure and function of the organ.	SE/TE: Representative pages: 891-896, 897-900, 901-905, 906-909, 910-918, 943-950, 951-955, 956-968	TR: GRSW: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3; ARSW: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3; TECH: iText: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3; PE: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3; T: 35-1, 35-2, 35-3, 35-4, 35-5, 37-1, 37-2, 37-3	
e.	Compare the structure and function of organ systems in one organism to the structure and function in another organism (e.g., chicken to sheep digestive system to fern to peach reproductive system).	SE/TE: Representative pages: 971-977, 978-984, 985-994, 1031-1035, 1036-1042, 1043-1047, 1048, 1049-1058	TR: GRSW: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; ARSW: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; WS: 149-157, 237-245; LW: Ch. 10 Real World Lab TECH: iText: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; PE: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; T: 38-1, 38-2, 38-3, 40-1, 40-2, 40-3, 40-4; BD: Influenza, Hantavirus; ABC: 44, 46	

STANDARD IV: Students will understand that genetic information coded in DNA is passed from parents to offspring by sexual and asexual reproduction. The basic structure of DNA is the same in all living things. Changes in DNA may alter genetic expression.

Percentage of coverage in the <i>student and teacher edition</i> for Standard IV: <u>100</u> %	Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard IV: <u>0</u> %		
OBJECTIVES & INDICATORS	Coverage in <i>Student Edition(SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	Not covered in TE, SE or ancillaries ✓
Objective 4.1: Compare sexual and asexual reproduction.			
a. Explain the significance of meiosis and fertilization in genetic variation.	SE/TE: 341-348, 349-354	TR: GRSW: 14-1, 14-2; ARSW: 14-1, 14-2; WS: 148, 157-159 TECH: iText: 14-1, 14-2; PE: 14-1, 14-2; T: 14-1, 14-2; ABC: 23, 24; BD: "Coming Home: A Nation's Pledge"	
b. Compare the advantages/disadvantages of sexual and asexual reproduction to survival of species.	SE/TE: 341-348, 349-354	TR: GRSW: 14-1, 14-2; ARSW: 14-1, 14-2; WS: 148, 157-159 TECH: iText: 14-1, 14-2; PE: 14-1, 14-2; T: 14-1, 14-2; ABC: 23, 24; BD: "Coming Home: A Nation's Pledge"	

	c. Formulate, defend, and support a perspective of a bioethical issue related to intentional or unintentional chromosomal mutations.	SE/TE: 319-321, 322-326, 327-330, 331-338	TR: GRSW: 13-1, 13-2, 13-3, 13-4; ARSW: 13-1, 13-2, 13-3, 13-4; WS: 113-121; LW: Ch. 13 Design an Experiment TECH: iText: 13-1, 13-2, 13-3, 13-4; PE: 13-1, 13-2, 13-3, 13-4; T: 13-1, 13-2, 13-3, 13-4; VL: 11; ABC: 30	
	Objective 4.2: Predict and interpret patterns of inheritance in sexually reproducing organisms.			
a.	Explain Mendel's laws of segregation and independent assortment and their role in genetic inheritance.	SE/TE: 270-274, 275-278, 279-284	TR: GRSW: 11-3, 11-4, 11-5; ARSW: 11-3, 11-4, 11-5; WS: 11, 12, 15, 20-26; LW: Ch. 11 Exploration TECH: iText: 11-3, 11-4, 11-5; PE: 11-3, 11-4, 11-5; T: 11-3, 11-4, 11-5; LS: Mendel on Inheritance, Meiosis; ABC: 17, 18, 19, 22	
b.	Demonstrate possible results of recombination in sexually reproducing organisms using one or two pairs of contrasting traits in the following crosses: dominance/recessive, incomplete dominance, codominance, and sex-linked traits.	SE/TE: 267-269, 270-274	TR: GRSW: 11-2, 11-3; ARSW: 11-2, 11-3; WS: 10-11, 18-22 TECH: iText: 11-	

			2, 11-3; PE: 11-2, 11-3; T: 11-2, 11-3; LS: Mendelian Inheritance	
c.	Relate Mendelian principles to modern-day practice of plant and animal breeding.	SE/TE: 270-274, 275-278, 279-284	TR: GRSW: 11-3, 11-4, 11-5; ARSW: 11-3, 11-4, 11-5; WS: 11, 12, 15, 20-26; LW: Ch. 11 Exploration TECH: iText: 11-3, 11-4, 11-5; PE: 11-3, 11-4, 11-5; T: 11-3, 11-4, 11-5; LS: Mendel on Inheritance, Meiosis; ABC: 17, 18, 19, 22	
d.	Analyze bioethical issues and consider the role of science in determining public policy.	SE/TE: 319-321, 322-326, 327-330, 331-338	TR: GRSW: 13-1, 13-2, 13-3, 13-4; ARSW: 13-1, 13-2, 13-3, 13-4; WS: 113-121; LW: Ch. 13 Design an Experiment TECH: iText: 13-1, 13-2, 13-3, 13-4; PE: 13-1, 13-2, 13-3, 13-4; T: 13-1, 13-2, 13-3, 13-4; VL: 11; ABC: 30	
Objective 4.3: Explain how the structure and replication of DNA are essential to hereditary protein synthesis.				

a.	Use a model to describe the structure of DNA.	SE/TE: 300-306	TR: RSW: 12-3; ARSW 12-3; WS p. 58-60 TECH: iText 12-3; PE 12-3; ABC: 25 & 26	
b.	Explain the importance of DNA replication in cell reproduction.	SE/TE: 287-294, 295-299	TR: GRSW: 12-1, 12-2; ARSW: 12-1, 12-2; WS: 55-56, 69-70; LW: Ch. 12 Exploration TECH: iText: 12-1, 12-2; PE: 12-1, 12-2; T: 12-1, 12-2; LS: DNA Structure and Replication; ABC: 20, 21	
c.	Summarize how genetic information encoded in DNA provides instructions for assembling protein molecules.	SE/TE: 287-294, 295-299	TR: GRSW: 12-1, 12-2; ARSW: 12-1, 12-2; WS: 55-56, 69-70; LW: Ch. 12 Exploration TECH: iText: 12-1, 12-2; PE: 12-1, 12-2; T: 12-1, 12-2; LS: DNA Structure and Replication; ABC: 20, 21	
d.	Describe how mutations may affect genetic expression and cite examples of mutagens.	SE/TE: 307-308, 309-316	TR: GRSW: 12-4, 12-5; ARSW: 12-4, 12-5; WS: 61, 74-75 TECH: iText: 12-4, 12-5; PE: 12-4, 12-5; T: 12-4, 12-5; ABC: 27,	

			28, 29	
e.	Relate the historical events that lead to our present understanding of DNA to the cumulative nature of science knowledge and technology.	SE/TE: 287-294, 295-299	TR: GRSW: 12-1, 12-2; ARSW: 12-1, 12-2; WS: 55-56, 69-70; LW: Ch. 12 Exploration TECH: iText: 12-1, 12-2; PE: 12-1, 12-2; T: 12-1, 12-2; LS: DNA Structure and Replication; ABC: 20, 21	
f.	Research, report, and debate genetic technologies that may improve the quality of life (e.g., genetic engineering, cloning, gene splicing).	SE/TE: 319-321, 322-326, 327-330, 331-338	TR: GRSW: 13-1, 13-2, 13-3, 13-4; ARSW: 13-1, 13-2, 13-3, 13-4; WS: 113-121; LW: Ch. 13 Design an Experiment TECH: iText: 13-1, 13-2, 13-3, 13-4; PE: 13-1, 13-2, 13-3, 13-4; T: 13-1, 13-2, 13-3, 13-4; VL: 11; ABC: 30	

STANDARD V: Students will understand that biological diversity is a result of evolutionary processes.			
Percentage of coverage in the <i>student and teacher edition</i> for Standard V: _____ 100 %	Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard V: _____ %		
OBJECTIVES & INDICATORS	Coverage in <i>Student Edition(SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	<i>Not covered in TE, SE or ancillaries</i> ✓
Objective 5.1: Relate principles of evolution to biological diversity.			
a. Describe the effects of environmental factors on natural selection.	SE/TE: 319-321, 378-386	TR: RSW: 13-1, 15-3; SR: 13-1, 15-3; LW: Ch. 13 Design an Experiment, Ch. 15 Exploration TECH: iText: 13-1, 15-3	
b. Relate genetic variability to a species' potential for adaptation to a changing environment.	SE/TE: 393-396, 197-403, 404-415	TR: GRSW: 16-1, 16-2, 16-3; ARSW: 16-1, 16-2, 16-3, WS: 55-60, 67-70 TECH: iText: 16-1, 16-2, 16-3, PE: 16-1, 16-2, 16-3; T: 16-1, 16-2, 16-3; VL: 13, 14, 15; BD: The Galapagos Islands	
c. Relate reproductive isolation to speciation.	SE/TE: 397-403, 404-415	TR: GRSW: 16-2, 16-3; ARSW: 16-2, 16-3, WS: 55-60, 67-70	

			TECH: iText: 16-2, 16-3, PE: 16-2, 16-3; T: 16-2, 16-3; VL: 14, 15; BD: The Galapagos Islands	
d.	Compare selective breeding to natural selection and relate the differences to agricultural practices.	SE/TE: 319-321, 378-386	TR: RSW: 13-1, 15-3; SR: 13-1, 15-3; LW: Ch. 13 Design an Experiment, Ch. 15 Exploration TECH: iText: 13-1, 15-3	
Objective 5.2: Cite evidence for changes in populations over time and use concepts of evolution to explain these changes.				
a.	Cite evidence that supports biological evolution over time (e.g., geologic and fossil records, chemical mechanisms, DNA structural similarities, homologous and vestigial structures).	SE/TE: 417-422, 423-428	TR: RSW: 17-1, 17-2; SR: 17-1, 17-2 TECH: iText: 17-1, 17-2; BD: Mummies: Ties to the Past; GO Online: Fossil Formation Activity, Links on Fossil Records	
b.	Identify the role of mutation and recombination in evolution.	SE/TE: 393-396, 197-403, 404-415	TR: GRSW: 16-1, 16-2, 16-3; ARSW: 16-1, 16-2, 16-3, WS: 55-60, 67-70 TECH: iText: 16-1, 16-2, 16-3, PE: 16-1, 16-2, 16-3; T: 16-1, 16-2, 16-3; VL: 13, 14, 15; BD: The Galapagos Islands	

c.	Relate the nature of science to the historical development of the theory of evolution.	SE/TE: 369-372, 373-377, 378-386	TR: GRSW: 15-1, 15-2, 15-3; ARSW: 15-1, 15-2, 15-3; WS: 22-28; LW: Ch. 15 Exploration TECH: iText: 15-1, 15-2, 15-3; PE: 15-1, 15-2, 15-3; T: 15-1, 15-2, 15-3	
d.	Distinguish between observations and inferences in making interpretations related to evolution (e.g., observed similarities and differences in the beaks of Galapagos finches leads to the inference that they evolved from a common ancestor; observed similarities and differences in the structures of birds and reptiles leads to the inference that birds evolved from reptiles).	SE/TE: 393-396, 197-403, 404-415	TR: GRSW: 16-1, 16-2, 16-3; ARSW: 16-1, 16-2, 16-3, WS: 55-60, 67-70 TECH: iText: 16-1, 16-2, 16-3, PE: 16-1, 16-2, 16-3; T: 16-1, 16-2, 16-3; VL: 13, 14, 15; BD: The Galapagos Islands	
e.	Review a scientific article and identify the research methods used to gather evidence that documents the evolution of a species.	SE/TE: 393-396, 197-403, 404-415	TR: GRSW: 16-1, 16-2, 16-3; ARSW: 16-1, 16-2, 16-3, WS: 55-60, 67-70 TECH: iText: 16-1, 16-2, 16-3, PE: 16-1, 16-2, 16-3; T: 16-1, 16-2, 16-3; VL: 13, 14, 15; BD: The Galapagos Islands	
Objective 5.3: Classify organisms into a hierarchy of groups based on similarities that reflect their evolutionary relationships.				
a.	Classify organisms using a classification tool such as a key or field guide.	SE/TE: 447-450, 451-455, 457-461	TR: RSW: 18-1, 18-2, 18-3; ARSW: 18-1, 18-2, 18-3; WS: 149-155, LW: Ch. 18 Real World	

			Lab TECH: iText: 18-1, 18-2, 18-3; PE: 18-1, 18-2, 18-3; T: 18-1, 18-2, 18-3	
b.	Generalize criteria used for classification of organisms (e.g., dichotomy, structural, broad to specific).	SE/TE: 447-450, 451-455, 457-461	TR: RSW: 18-1, 18-2, 18-3; ARSW: 18-1, 18-2, 18-3; WS: 149-155, LW: Ch. 18 Real World Lab TECH: iText: 18-1, 18-2, 18-3; PE: 18-1, 18-2, 18-3; T: 18-1, 18-2, 18-3	
c.	Explain how evolutionary relationships are related to classification systems.	SE/TE: 447-450, 451-455, 457-461	TR: RSW: 18-1, 18-2, 18-3; ARSW: 18-1, 18-2, 18-3; WS: 149-155, LW: Ch. 18 Real World Lab TECH: iText: 18-1, 18-2, 18-3; PE: 18-1, 18-2, 18-3; T: 18-1, 18-2, 18-3	
d.	Justify the ongoing changes to classification schemes used in biology.	SE/TE: 447-450, 451-455, 457-461	TR: RSW: 18-1, 18-2, 18-3; ARSW: 18-1, 18-2, 18-3; WS: 149-155, LW: Ch. 18 Real World Lab TECH: iText: 18-1, 18-2, 18-3; PE: 18-1, 18-2, 18-3; T: 18-1, 18-2, 18-3	